



***MOBILE WOODEN INNOVATIVE HIGH TUNNEL
USING MAINE PRODUCTS***

PRESENTED BY:

PISCATAQUIS COUNTY SOIL AND WATER CONSERVATION DISTRICT

USDA Service Center, Pine Crest Business Park

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This high tunnel, located at Stutzmans Farm in Sangerville, Maine is based upon work supported by the Natural Resources Conservation Service, U. S. Department of Agriculture, Conservation Innovation Grant (CIG) # 69-1218-11-25.

HIGH TUNNEL DESIGN AND FUNCTIONALITY



Site work needed to be done
to prepare the ground for the high tunnel.



The frame is made of Maine-grown cedar,
which was locally harvested.



The Maine cedar high tunnel frame in progress of being built at Stutzmans Farm.



Plastic being placed
over the high
tunnel frame.



Inside view of
the high tunnel.



In the colder months the double layer of polyethylene film is inflated using a low powered fan. This fan is the only equipment in the high tunnel that requires electricity.



Aluminum louver vents are on both side walls and have automated solar gas openers.



Both sidewalls have doors that can be opened for ventilation and farm equipment.



The high tunnel temperature is managed passively with solar gas cylinders, which open both the skylights and the side door louver vents.

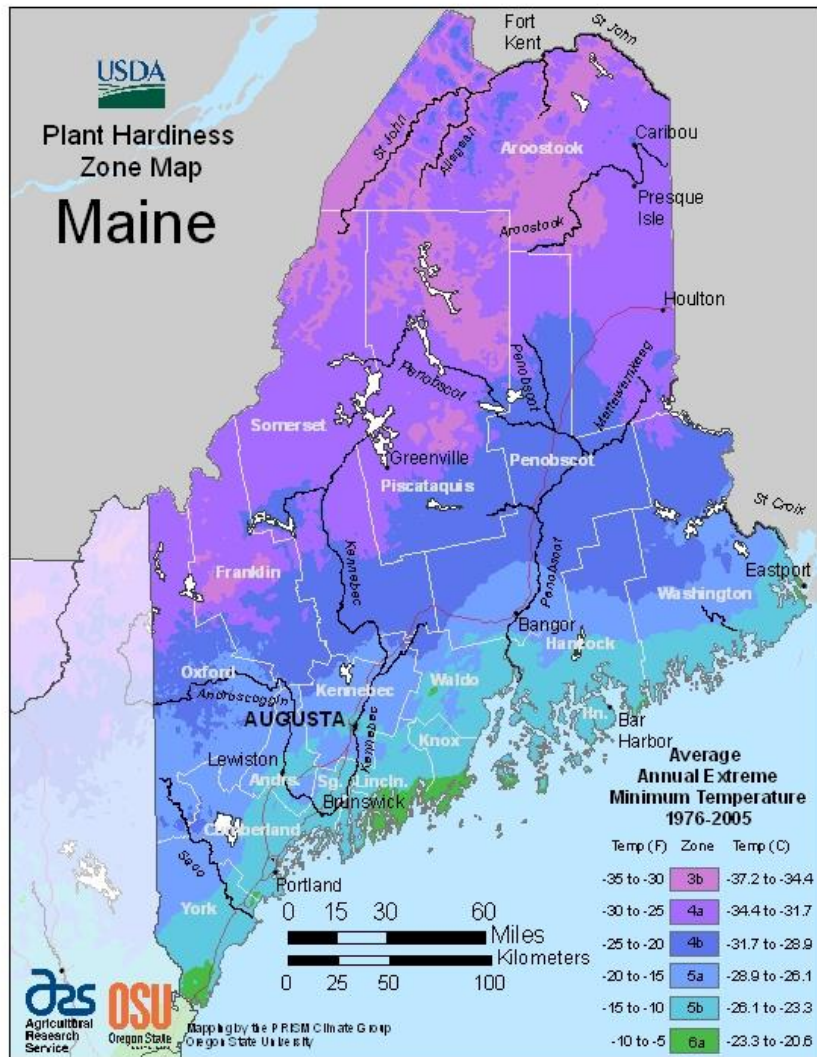
VALUE OF THE HIGH TUNNEL TO THE FARMER



A benefit of high tunnels is that they use the land very efficiently. Due to the gothic arch shape crops can be planted very close to the inside edge of the high tunnel to maximize the growing space.



The farmers emphasized that this wooden high tunnel was much easier to maintain during the winter, as compared to the greenhouse next to it that required hours and days of snow and ice removal. This wooden high tunnel, with the gothic arch, shed the snow and ice very well.



Maine clearly has a much colder climate than many states and greatly benefits from low-cost, efficient and effective season extenders!

Farmers can grow fruits and vegetables year-round in a region that has a short growing season!



- ~ Plants that were dormant over the winter start to grow in February.
- ~ Harvest ~ starting in March, many types of greens that wintered over in the high tunnel, including kale, chard, collards and spinach. Leeks can also be harvested in early spring.
- ~ Plant ~ snow peas, strawberries or broccoli in March. Summer crops in April or May.



- ~ Harvest ~ plants that were put in the high tunnel in early to mid-spring, as well as summer crops that were planted in April or May, such as tomatoes, peppers, basil, melons, cucumbers, sweet potatoes and squashes.
- ~ Succession planting of some crops with shorter growing seasons may also be done during the summer.



- ~ Succession plantings of lettuce, greens, broccoli and other crops with shorter growing seasons may also be planted in early fall for late fall for early winter harvests.
- ~ Harvest ~ plants put in the high tunnel in late summer or early fall.



- ~ Before the indoor high tunnel temperature gets too cold, remaining crops can be harvested.
- ~ Cold hardy crops will go dormant until February when the sun is higher in the sky.

**HOW THE
HIGH TUNNEL
BENEFITS THE
LARGER
COMMUNITY**



The Stutzmans actively engage in outreach and education through their farm, and also help to provide training and jobs to local people.



Maine forest products exports 2011-2013			
Total selected commodities	ANNUAL 2011	ANNUAL 2012	ANNUAL 2013
Wood and articles of wood	205,989,823	235,366,459	277,223,021
Paper, paperboard and articles	406,164,958	393,314,747	379,318,856
Wood pulp etc; recovered (waste and scrap), paper and paperboard	297,588,936	258,417,072	234,827,536
Total	909,743,717	887,098,278	891,369,413
Source: Maine International Trade Center			

The high tunnel supports both the local forest products industry and local sustainable agriculture.



This truck doesn't have to move too far to get the freshly harvested produce to markets. Food miles are drastically reduced by the on-site farmstand, bakery and café. Improved sustainable agriculture distributions systems are currently being planned for in Piscataquis County and the Maine Highlands through the growing food networks. USDA NRCS and the Piscataquis County Soil and Water Conservation District are two of the valuable partners that are helping farmers and their community.



“Pair views over working farmlands with hearty soups, fat sandwiches on house-made breads, and brick-oven pizzas, all scratch-made from fresh-from-the-fields ingredients. Don’t miss the homemade pies and sweets or the all-you-can-eat Sunday brunch with entertainment..”

**~The Stutzman’s Farmstand and Farm to Table Bakery and Café in Sangerville, Maine~
Yankee Magazine, Travel New England, Best Farm to Fork!**

*Yankee Magazine, Travel New England, Best of New England,
at www.yankeemagazine.com/travel-listing/stutzmans-farm-stand-bakery-café*



A Stutzmans Farm Tour was held in April, 2014 by the Piscataquis County Soil and Water Conservation District and the Maine Organic Farmers and Gardeners Association, and sponsored by USDA NRCS through their Conservation Innovation Grant program. The tour aimed to educate people about the many benefits of this wooden high tunnel.

This high tunnel has generated a lot of interest in Maine, but its potential to provide a low-cost season extender in colder climates in many states is much greater!



The farmer is an integral part of the local community, providing nutritious, locally grown food to the region.

**USDA-NRCS
HIGH TUNNEL
PROGRAM**

~ Sunny, Rainie and Sid Stutzman ~

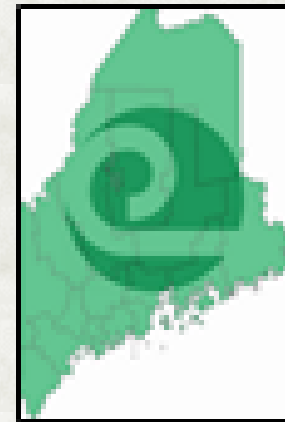
The Stutzmans Farm land in Piscataquis County, Maine will continue to be farmed in future generations because this family is re-tooling their farming ways for a sustainable future, with the help of USDA NRCS conservation programs and practices they are implementing .



“Seasonal High Tunnels is a project under the Know Your Farmer, Know Your Food initiative for farmers to establish high tunnels to increase the availability of locally-grown produce in a conservation-friendly way.”

**This innovative, mobile wooden high tunnel is base upon work supported by the
Natural Resources Conservation Service, U. S. Department of Agriculture,
Conservation Innovation Grant (CIG) # 69-1218-11-25.**

***This presentation is an overview of the results of this research and demonstration project.
Many of this project's results are included in the Innovative Mobile Wooden High Tunnel
Operations Guide prepared by Sunny Stutzman of Sunny Skies Design, in collaboration with the
Piscataquis County Soil and Water Conservation District, and are also being reported to USDA NRCS.***



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***Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s)
and do not necessarily reflect the view of the U.S. Department of Agriculture.***

***The the USDA's Natural Resources Conservation Service and the Piscataquis County Soil and Water Conservation District
are equal opportunity providers and employers.***